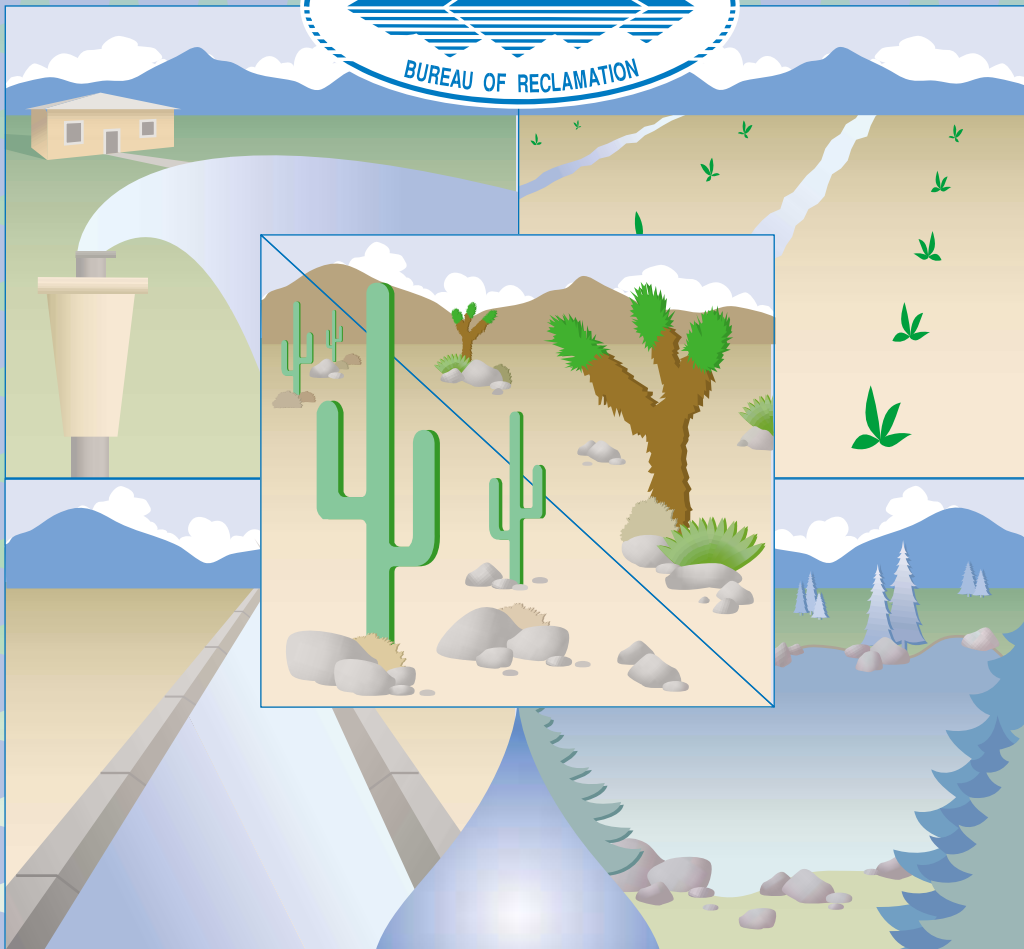


LOWER COLORADO REGION

WATER CONSERVATION FIELD SERVICES PROGRAM



2000 End of Year Report

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Introduction

Water conservation and management is an increasing priority for the Bureau of Reclamation. Water conservation measures are needed to help meet our increasing agricultural, environmental, and urban water demands.

In 1997, Reclamation created the Water Conservation Field Services Program (WCFSP). The WCFSP is designed to actively encourage water conservation, assist water agencies to develop and implement effective water management and conservation plans, coordinate with state and other local conservation program efforts, and generally foster improved water management on a regional, statewide, and watershed basis.

The program emphasizes a nonregulatory, collaborative approach. It offers the flexibility to create partnerships with many entities. The WCFSP is designed to support watershed partnerships associated with water systems or water supplies affected by Reclamation projects as well as contribute to the recovery of endangered or threatened species whose habitat and/or survival may be influenced by conservation activities on Reclamation projects and associated watersheds.

Reclamation's Role in Water Conservation

In the early 1900s, Reclamation served a population of 10 million people. In 1997, that figure rose to nearly 76 million, with the population expected to grow even more in the future. As the demand for the West's water supply continues to grow, so will the need to effectively manage this limited resource.



Because it is the second largest wholesaler of water in the nation, Reclamation is in a unique position to help resolve western water issues. Recognizing the opportunities offered by this stewardship role, Reclamation is committed to cooperative efforts with water users and other interested groups to discover and improve efficient water management practices. In making this commitment, Reclamation is helping ensure adequate water for people living now and for future generations.

Partnerships

Developing and expanding partnerships is key to the WCFSP's success. Partnerships are required at every level of the program to define agendas, synthesize actions, and ensure collaboration.

The needs, characters, and goals of potential partners must be known and

understood for partnerships to be effective. Once mutual benefits are identified, the interpersonal relationships need to be nurtured to develop trust and confidence. Partnerships are dynamic and must change to meet the evolving needs of all partners.

A list of some of Reclamation's partners since the WCFSP inception follows at the end of this document.

Program Description

Created in 1902, Reclamation developed irrigation projects that "reclaimed the desert" and turned arid western landscapes into some of the most productive farmland in the world. Now its focus has broadened from developing, operating, and maintaining water projects to using water more efficiently. Reclamation has five regional offices operating throughout the 47 western states.

Reclamation's WCFSP began in 1997 with the following goals:

- 💧 Actively encourage water conservation on Federal water projects
- 💧 Assist irrigation and other water districts with their responsibility to develop and implement effective water conservation plans
- 💧 Compliment and support other Federal, state, and local conservation programs
- 💧 Foster improved water management on a regional, statewide, and watershed basis throughout the 17 western states

Reclamation Reform Act Planning

The Reclamation Reform Act of 1982, also known as RRA, contains water conservation provisions. These provisions direct all water districts that have entered into repayment or water service contracts with Reclamation to develop water conservation plans and carry out appropriate water conservation measures.

Reclamation initiated the WCFSP to encourage water conservation and efficient use of water supplies on federal reclamation projects, as well as to foster improved water management on a watershed basis throughout the West. The WCFSP implements the preferred alternative in Reclamation's March 1996 final environmental impact statement on implementing RRA. This fulfills Reclamation's legal responsibility under section 210(a) of the RRA to "encourage" water conservation and assist districts in meeting their obligation to develop water conservation plans.

Types of Assistance

Reclamation has provided local assistance to hundreds of water districts in four key areas:

1. **Water management planning** - Reclamation provides technical or financial assistance to help water districts develop effective water conservation plans.
2. **Education** - Reclamation sponsors water education activities such as conservation field tours, workshops and training sessions, and distributing information guides and materials. Reclamation also supports teacher education programs such as Water Education for Teachers (WET).
3. **Demonstrations** - Reclamation assists urban and agricultural districts to demonstrate innovative conservation technologies. Demonstrations emphasize areas such as water measurement, canal automation, diversion structures, seepage control, xeriscaping, and urban retrofitting.
4. **Conservation measures** - Reclamation provides technical assistance and cost sharing to help water districts design and implement conservation measures.

Technical assistance includes:

- 💧 Field visits, surveys, assessments, or reviews by Reclamation staff to assist with planning, demonstrating, or implementing water conservation activities
- 💧 Agreements to fund state or other technical staff or consultants to assist with or develop water conservation plans
- 💧 Technical workshops, tours, or training provided by Reclamation or others
- 💧 Other water conservation education outreach activities or sponsorships

Financial assistance includes:

- 💧 Grants for field demonstrations of specific measures
- 💧 Cost sharing in implementation of selected measures
- 💧 Stipends to districts to encourage joint planning
- 💧 Support for conservation research or technology transfer
- 💧 Financial support for special incentives under existing state and other conservation programs

Through the WCFSP, Reclamation is working with local water users to ensure that our most precious resource, water, serves the American public far into the future.

Areas of Emphasis Water Management Planning

The WCFSP assists water districts in developing quality water conservation plans. In many cases, this is technical assistance provided by Reclamation staff. In others,

it may be financial assistance through cost sharing to support the district in developing its plan.

Typical activities include:

- 💧 Conduct field visits to assist with resource inventories and water conservation plans
- 💧 Assist with planning surveys and designs, water budgets and investigations, studies, and evaluations
- 💧 Facilitate planning among districts by encouraging and developing partnerships and agreements
- 💧 Coordinate technical assistance through partnerships and agreements among organizations

Conservation Education

Reclamation uses the WCFSP to collect and disseminate information about water use and management. typical activities include:

- 💧 Conducting field tours
- 💧 Distributing information guides and materials
- 💧 Conducting workshops, including an annual water management seminar
- 💧 Providing on-site educational services
- 💧 Arranging partnerships with governmental, state, and local educational organizations
- 💧 Participating in water fairs and other children's educational activities
- 💧 Establishing and supporting water conservation information centers



Demonstration of Innovative Technologies

Area programs are supporting the local demonstration of projects such as improved water measurement, appropriate use of automation and telemetry control, new approaches to minimizing canal and ditch seepage, and innovative on-farm irrigation management methods. Typical activities include:

- 💧 Assisting with research, evaluation, and demonstration

- 💧 Sponsoring specific conservation demonstration projects and activities
- 💧 Coordinating financial assistance for joint projects and partnerships with other agencies

Implementation of Conservation Measures

The WCFSP provides technical help for water agencies to begin implementing conservation measures. Local programs also provide cost sharing, generally on a 50-50 basis, through cooperative agreements or grants. Typical activities include:

- 💧 Assisting water agencies with implementing water conservation plans and water management practices
- 💧 Providing funds for implementation through cost-sharing activities
- 💧 Facilitating partnerships with other organizations to conduct implementation activities

Program Organization

Office of Policy Responsibilities

Reclamation's Office of Policy has a leadership role to guide and support the WCFSP. The WCFSP program manager is part of the Office of Policy's Water Resources Office located in Denver, Colorado.

Regional and Area Office Responsibilities

Reclamation includes five regional areas, each directed by a regional office. Within these regions, area offices provide locally, more individualized service to water districts and other entities in their areas. Each of Reclamation's area offices throughout the 17 western states has a WCFSP coordinator and administers a local program providing technical and financial assistance in all four program emphasis areas. Specifically, the area offices can:

- 💧 Provide technical and financial assistance to districts and entities developing and implementing water conservation plans
- 💧 Review and comment on plans to ensure that sound water conservation plans are adopted
- 💧 Establish collaborative efforts with districts and other entities to encourage basin wide coordination in planning, preparing, and implementing water district water conservation plans
- 💧 Develop and provide districts with planning guidance and other informational tools to assist in developing and implementing water conservation plans

- 💧 Provide educational workshops and technical training opportunities for districts and other entities in water management and conservation planning and implementation
- 💧 Provide technical and financial assistance in demonstration and technology transfer of innovative conservation technologies
- 💧 Provide cost-sharing opportunities to encourage implementation of effective water conservation and efficiency measures
- 💧 Ensure that Reclamation assistance programs support and complement state water conservation efforts

"Bridging-the-Headgate" Partnership

While city dwellers get water from a faucet, farmers throughout the western states get water for their fields through headgates. Headgates are the last stop on the journey from Reclamation's storage facilities to the field.

Reclamation works very closely with water districts that deliver irrigation water to those headgates. Reclamation, through the WCFSP, has been working to conserve water-both as it's delivered and as it's used on the farm. Over the past year, Reclamation has initiated a partnership, "Bridging4he-Headgate," with three organizations that work closely with farmers: the U.S. Department of Agriculture's Natural Resources Conservation Service, the National Association of Conservation Districts, and the National Association of State Conservation Agencies.

The aim of the new partnership is for federal, state, and local agencies to work more closely to form a bridge between the farmers' headgates and water delivery systems. This creates new opportunities for synergism between traditional on-farm and off-farm conservation assistance programs. Through the partnership, Reclamation is finding new ways to facilitate productive working relationships between the local soil and water conservation districts and local irrigation districts to address agricultural water management efficiency issues.



Throughout the 17 western states, Reclamation shares a common commitment to manage and protect our natural resources with many other agencies and organizations. "Bridging-the-Headgate" is one more example of how Reclamation is providing leadership in developing local, state, and Federal partnerships to promote efficient water and other natural resource management in the West.

Lower Colorado Region Summary



Lower Colorado Region Summary

In the vast and arid expanse of the Lower Colorado Region, different locations feature different issues. The cumulative numbers are impressive: nearly 21 million people and 1.1 million acres of agriculture depend on Lower Colorado River water. But the full story is told by local distinctions. Booming Las Vegas struggles with its legacy as a verdant and thirsty oasis by promoting low-water landscaping. Yuma agriculture addresses the challenge of saline soils caused by over-irrigation. The southern California metroplex strives to increase water efficiency in the face of supplies constrained by law. Phoenix and Tucson seek to reconcile phenomenal growth with finite water availability.

What all these areas of the region have in common is a conviction that water conservation must become a way of life. Like the native plants and animals of the arid southwest, water users in the region are learning how to make a little water do a lot of work. In other words, with the help of Reclamation's Water Conservation Field Services Program (WCFSP) we are beginning to adapt to desert realities.

In Fiscal Year 2000, the WCFSP distributed over 1.9 million dollars to nurture planning, demonstrations, implementation, education and training in the region. Such investments pay off handsomely by advancing water users toward a sustainable balance between supply and demand.

Water Management Planning Thinking About the Future

The region's water management planning assistance efforts have matured beyond the start-up phase. Only a few districts have yet to submit their first plans; most are tapping Reclamation for reviews of plan updates. Of the 97 districts required to submit plans, 91% have done so. In FY2000, over 200 entities have been assisted under the umbrella of the WCFSP. Thus, water planning has taken root as a customary way of doing business an enormous success for the Water Conservation Field Services Program in the Lower Colorado Region.

Water planning has entered a second wave of progress, uniting the many agencies within the region in comprehensive approaches to water management. For example, Reclamation coordinates its efforts closely with the Arizona Department of Water Resources, participating in the shaping of the third management plan for the state. In California, Reclamation works with districts to develop sound analytical methods and data for long range planning and demand forecasting, and it joins forces with over 100 other agencies as part of the California Urban Water Conservation Council's Best Management Practices program. In Nevada, Reclamation serves as an active member of the Southern Nevada Water Authority conservation workgroup and the Las Vegas Urban Resources Partnership.

In sum, WCFSP staff efforts and \$252,327 in financial assistance for FY2000 have helped to make water planning a standard practice, acknowledged for the benefits it provides.

Interesting Highlights:

In Arizona, only two municipal and one agricultural plan remain for 100% compliance. The WCFSP helped both the Navajo Nation and the Tohono O'odham Farm Authority develop water management plans.

In southern California, the Metropolitan Water District and the Municipal Water District of Orange County (MWDOC) are gathering data on residential fixtures, appliances, plumbing leaks, yard irrigation systems, and demographics. The project will measure current water conservation adoption and provide data for retail demand forecasting models.

Along the Lower Colorado River, Lake Havasu City benefited from a WCFSP grant of \$4,827 to complete its 5-year water conservation plan, adopted by the City's Board of Directors in July 2000.

Conservation Education Teaching about the Future

The growing awareness of water conservation as a necessity owes in great part to public and school water education programs. A sustainable balance between supply and demand can be achieved only if water conservation habits are perpetuated through the generations.

Reclamation this year continued its commitment to getting out the water-wise message in the Lower Colorado Region, reaching young people in the classroom and in family settings through programs and on farm programs. 68 entities supported by \$205,486 in financial assistance.

Interesting Highlights:

The Yuma Area Office presented its water conservation display at four county fairs, at the City of Yuma "Earth Day," and at the US Marine Corps Air Station energy fair.

Reclamation purchased twenty eight ground water simulation models for all the NRC and SWCD Environmental Education centers in the state of Arizona, including training programs on how to use the models effectively for teaching purposes. Reclamation also sponsored Project WET training sessions for teachers.

Sixth grade students within the service areas of participating southern California water agencies conducted surveys of their household water usage and the potential for residential retrofits. Survey training provided a wonderful learning opportunity for the kids, who turned in six thousand surveys. This innovative program was publicized on national television.

Families visiting Reclamation's Hoover Dam can now play a water conservation software game at any one of five computer kiosks located in the Hoover Dam Visitor Center.

Demonstration of Innovative Technologies Implementing the Future

If there is anything worth more than a good idea, it is a good idea put into practice. The WCFSP Area Offices in the Lower Colorado Region granted \$225,375 to 31

entities for demonstrations of water-wise technologies and research into new and better ways to utilize water efficiently.

Interesting Highlights:

Reclamation supported University of Arizona research to develop an easy-to-use, irrigator-friendly method for determining irrigation cut-off times on the Yuma Mesa and the Yuma Valley. Also, Reclamation and the University of Arizona are developing Internet-based irrigation scheduling software, "AZSCHED." Programming is 90% complete

Mobile laboratory programs for several Natural Resources Conservation Districts in the Phoenix Area totaled 70 assessments for 12,000 AF of saved water.

Reclamation provided funding assistance for three research projects in FY2000: the University of Arizona Turf grass study, the Phoenix AMA Xeriscape study, and the Phoenix Ultra Low Flush Toilet Study.

The Helix Water District in southern California, using sophisticated data analysis, identified sites having the potential for substantial water savings on one acre or more of irrigated landscape. Results from this analysis will be extrapolated to areas served by other water retailers throughout southern California.

Data collection and analysis for the ongoing joint USBR Southern Nevada Water Authority Xeriscape Conversion Study showed an impressive 39 percent water savings among study participants. The one-year SNWA-USBR Horizontal Axis Washing Machine Study finished the final spin cycle in southern Nevada, and folks were quite happy how the wash turned out.

Implementation of Conservation Measures The Future is Now

Numerous existing methods have proven quite effective at saving water. The challenge is to expand their adoption. With \$225,375 of Reclamation support in FY2000, 40 entities in the Lower Colorado Region are making headway toward achieving greater efficiency of use.

Interesting Highlights:

Reclamation entered into water measurement agreements with the Fort Mohave Indian Tribe and the US Fish and Wildlife Refuges along the Colorado River. A new agreement with California Polytechnic State University, Irrigation Training and Research Center (ITRC), will assure technical assistance for Yuma Area districts.

The combined activities of the Phoenix Area WCFSP in Fiscal Year 2000 have resulted in a water savings of approximately 12,150 Acre Feet and provided information and technical assistance to more than 445,000 people.

This fiscal year the SCAO and the Mid-Pacific Regional Office upgraded the existing agreement with The California Urban Water Conservation Council (CUWCC). The CUWCC and the BMP process it oversees are now central to existing and proposed State and Federal urban water conservation initiatives, including CVPIA, Urban Water Management Planning, California's 4.4 Plan, and CALFED Water Use Efficiency Program.

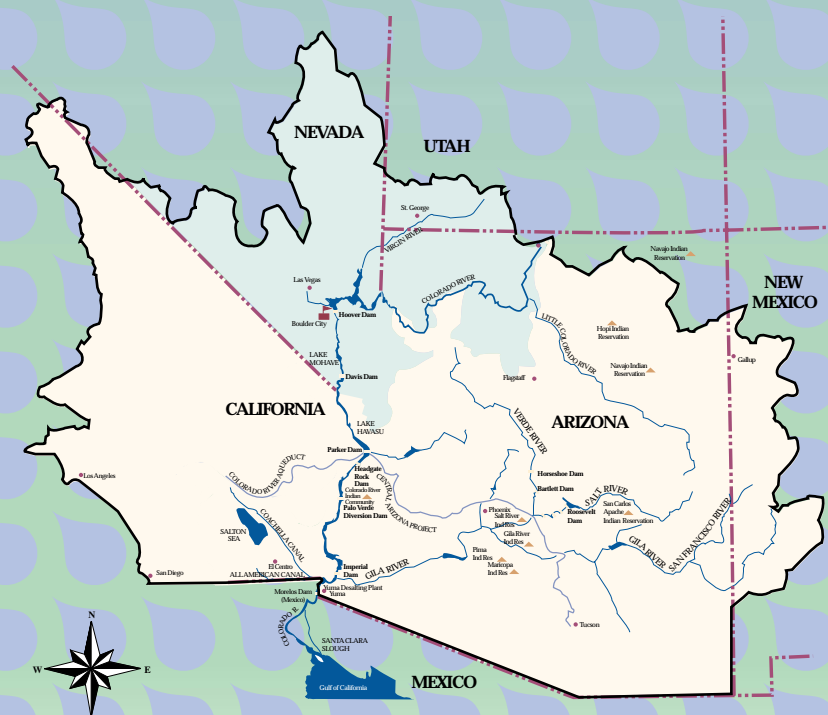
The Metropolitan Water District of Southern California this year increased its rebate premiums and targeted the specific CII water uses where retrofits would yield the highest water savings, which should amount to 2,850 acre-feet per year over the lifetime of the retrofits. The Riverside-Corona Resource Conservation District (RCRCD) installed and monitored multi-programmable landscape sprinkler controllers in fifty homes, complete with irrigation schedules, thus cutting current use by 10% to 12%.

Eastern Municipal Water District gave away over 2,000 ULFT units to low and fixed income groups, with projected savings amounting to 1,134 acre-feet of water over the fifteen year lifecycle of the units. Reclamation purchased 1,600 toilets for the initial year of a ten year ULFT program conducted by the West and Central Basin Municipal Water Districts. The distribution will utilize the community-based organizations, ExPert and the Old Timers Foundation.

The Area Office Reports

The highlights featured in this regional summary hint at the diversity of programs supported by the area offices of the region. The following Area Office Reports show how each urban and agricultural locale in this desert expanse has its own particular set of issues, its own institutional and cultural history, and its own style of problem resolution. That is why the WCFSP is a "field services program" focused on nurturing local accomplishments. Despite the fact that water users in this region all depend on water from the Colorado River, there is no one-size solution that fits all circumstances. As the water master of the Colorado River, Reclamation must remain dedicated to helping a diversity of real people deal with distinct circumstances as they strive to bring water supply and water use into a sustainable balance through water conservation.

Lower Colorado Region Area Office



2000 End of Year Report

ACCOMPLISHMENTS

ACCOMPLISHMENTS

Fiscal Year 2000 was a busy one for Reclamation water conservation programs in the Lower Colorado Region Area Office, with gratifying returns on the investment of time, effort and financial support.

Conservation Planning Assistance

When water users convert Reclamation's assistance into substantial results, everyone wins. On March 16, 2000, the Southern Nevada Water Authority, an organization of seven urban water users, received the 1999 Commissioner's Award for Water Conservation Planning in recognition of goals set and achieved.

That kind of progress continued through FY2000.

For example, the Water Conservation Field Services Program provided technical advice to Lake Havasu City and granted \$4,827 to help the City develop a final 5-year water conservation plan. The assistance paid off: the plan was adopted by the City's Board of Directors by resolution in July 2000.

Reclamation reviewed Basic Water Company's revised draft water conservation plan, which is scheduled for adoption in FY 2001.

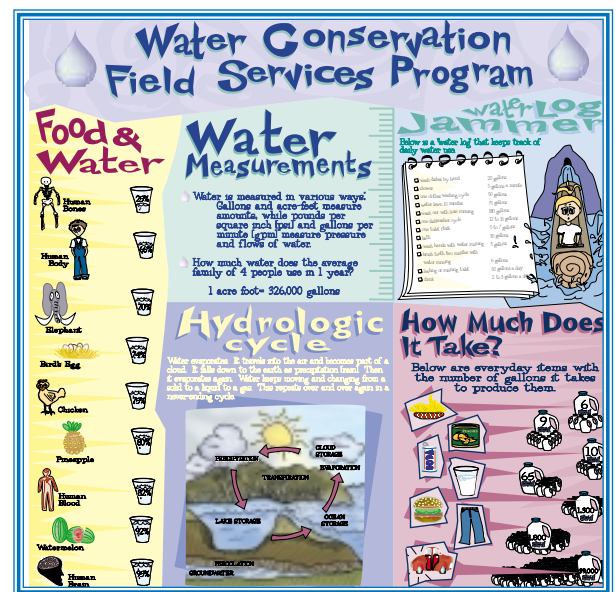
Throughout the year Reclamation took part in monthly meetings of the SNWA conservation workgroup and the Las Vegas Urban Resources Partnership. Reclamation also consulted with LCRA water users about annual Colorado River diversions and the status of their water conservation efforts.

Information and Education

Perhaps the most important long-term investment Reclamation can make is in educating people of all ages about the importance of conserving water.

For the Classroom:

Teachers in southern Nevada classrooms learned how to use Project WET curricula effectively, thanks to Reclamation sponsorship of four teacher training workshops.



A \$2000 grant to Nevada's annual Water Education Calendar assured distribution of 300 copies to local schools, plus Reclamation's own featured month on the cal-

endar.

Fourth and fifth grade students in northern Arizona and southern Nevada learned about "Big Rivers" because Reclamation sponsored the May 2000 issue of Wild Outdoor World magazine and accompanying activity booklet.

Eighty-five fourth grade classrooms in northern Arizona will be learning by interacting with model simulations of groundwater use, owing to Reclamation's continuing support of the program in partnership with the University of Arizona's Cooperative Extension.

Reclamation joined forces with Watercourse and International Project WET to develop a fourth and fifth grade student activity booklet about the Colorado River watershed.

For the Public:

Families visiting Reclamation's Hoover Dam can now play a water conservation software game at any one of five computer kiosks located in the Hoover Dam Visitor Center.

Gardeners who value the advice of Sunset Magazine now have a Sunset guide booklet about landscaping and irrigating in the desert southwest, courtesy of Reclamation sponsorship.



Green thumbs of all ages who wish to landscape the Xeriscape way can now find out how to do it, using video and print lessons provided by SNWA with Reclamation support.

Implementation of Innovative Technologies and Effective Efficiency Measures

Partnership was the byword for FY2000 demonstration projects. Reclamation teamed with several organizations to show that water conservation really works.

Does converting landscapes from turf to Xeriscape conserve much water? Survey says, yes! Data collection and analysis for the ongoing SNWA-USBR Xeriscape Conversion Study showed an impressive 39 percent water savings among the Study participants.

Can Federal public facilities set a good example for water conservation? The NPS-USBR Landscape Conversion Study aims to do just that by swapping out water-wasting vegetation for drought tolerant varieties. In FY 2000 The National Park Service pulled the old bushes at Echo Bay and Cottonwood Cove campgrounds, Lake Mead National Recreation Area. Next year, the water-wise plants go in, along with a new

drip irrigation system, resulting in a 70% savings.

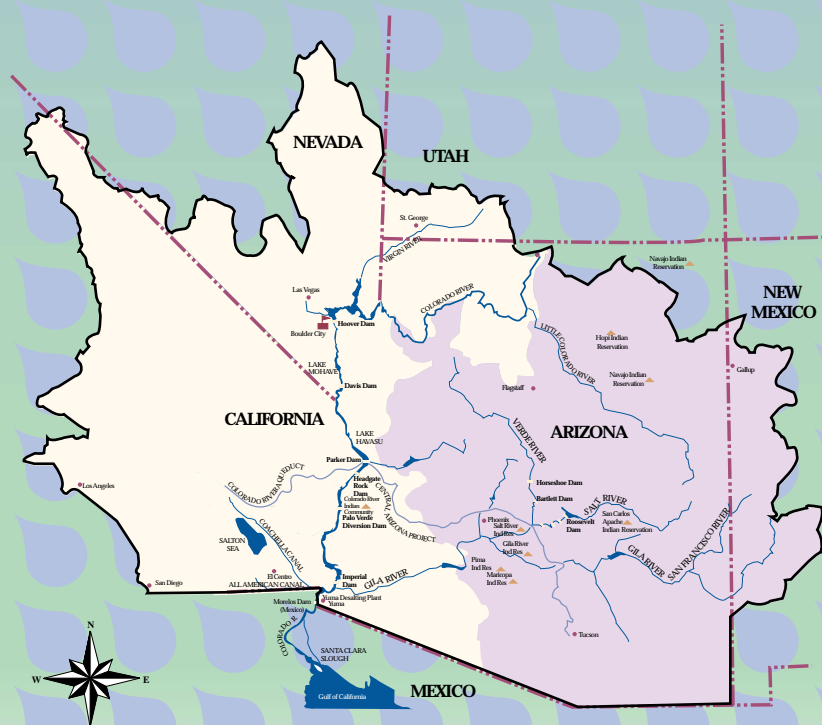
Are people willing to be sensible about suds? The Sensible Suds retrofit program indicates they are. The one-year SNWA-USBR Horizontal Axis Washing Machine Study finished the final spin cycle in southern Nevada, and folks were quite happy how the wash turned out.

Interested in having a broader selection of drought tolerant landscape plants to choose from? The UNR-USBR Water-Efficient Plant Research Demonstration Project is recruiting 10 new trees, 10 new shrubs, and 10 new groundcovers as options for southern Nevada landscapers and residents.

Backyards are for barbeques and water conservation? Indeed they are. The 2-acre CDSN-USBR Backyard Conservation Demonstration Garden Project in Henderson, Nevada will show homeowners how it can be done.

You can train the sprinkler but can you train the sprinkler owner? The SNWA-USBR Residential Irrigation Retrofit Study is examining both the water consumption patterns and the behavioral impact of upgrading automatic sprinkler systems to greater efficiencies.

Phoenix Area Office



2000 End of Year Report

Phoenix Area Office

ACCOMPLISHMENTS

Based on the exemption provided by the Regional Director, all non-Indian CAP water users are in compliance with Reclamation's requirements under Section 210(b) of the RRA. However, many federal water users obligated to comply with the ADWR's performance-based standards have yet to meet those state goals. Consequently, municipalities are focusing on education, research and implementation of indoor and outdoor water saving measures. Agricultural districts are likewise striving to meet designated irrigation efficiencies and are dependent on the development of additional water efficient practices. Therefore, the PXAO has devoted its WCFSP effort to supporting research, education, demonstration, and implementation.

The combined activities of PXAO's WCFSP in Fiscal Year 2000 have resulted in a water savings of approximately 12,150 Acre Feet and provided information and technical assistance to more than 445,000 people.

The Phoenix Area Office Water Conservation Field Services Program defined six major program areas in FY 2000:

1) Support the Active Management Areas and the Department of Water Resources in water conservation efforts.

PXAO participated in the public review and comment of the Arizona Department of Water Resources' third management plan, now complete for each AMA. Through a cooperative agreement with the ADWR, Reclamation worked with the Tucson AMA and various partners to support and promote water conservation activities.

2) Educate the public about efficient water use.

Water users can often find what they need at the PXAO website. Additionally, Reclamation provided information and brochures to the Water Conservation Alliance of Southern Arizona (Water CASA) for public dissemination.

The Phoenix Library Bookset Program received funding through the WCFSP. As a result, 330 additional sets of 20 books on water conservation and water science are available to 350,000 patrons of school and city libraries throughout the Phoenix water service delivery area.

At the City of Mesa "Adopt a Desert View" Art Festival, Reclamation distributed 15,000 water conservation calendars from its exhibit booth. Reclamation sponsored and participated in the Tucson Children's Museum Earth Day Festival and Parade, and the Project WET Water Festival.

Through the WCFSP, Reclamation joined with the Town of Payson to help promote water conservation awareness, reaching over 500 local people. Reclamation purchased twenty eight ground water simulation models for all the NRCD and SWCD Environmental Education centers in the state of Arizona, including training

programs on how to use the models effectively for teaching purposes. Reclamation also sponsored Project WET training sessions.

Throughout the year Reclamation attended NRCD board meetings and Field Days. WCFSP staff also served on Regional Conservation Committees, the Arizona Municipal Water Users Association Conservation Committee (AMWUA) and Water CASA.

3) Participate in demonstration projects.

Mesa Community College Xeriscape Demonstration Garden now has new signs to inform its annual 23,000 visitors, funded with Reclamation support.

Tucson's Dual Metering evaluation program supplied 100 residential users with split indoor/outdoor meters, with Reclamation sponsorship for the ongoing 10 year effort.

The Community Water Company of Green Valley, thanks to Reclamation assistance, will develop a Water on the Web system where its 1000 customers can compare their consumption patterns. The site will also furnish conservation tips for anyone who wants to do better.

The Our Yard Learning Center, conducted by the Pima County Cooperative Extension Service, used Reclamation support to construct new water conservation exhibits for its 15,000 annual visitors.

4) Assist the development of water management plans.





Through the WCFSP, PXAO is participating with the Navajo Nation and the Tohono O'odham Farm Authority in the development of water management plans.

5) Support research projects.

PXAO provided funding assistance for three research projects in FY2000: the University of Arizona Turf grass study, the Phoenix AMA Xeriscape study, and the Phoenix Ultra Low Flush Toilet Study.

6) Assist innovative water conservation demonstrations.

PXAO assisted 15 demonstrations of innovative conservation measures. Those programs included

-  Welcome packets for water districts,
-  ADWR Xeriscape studies,
-  A computerized water accounting system for the New Magma Irrigation and Drainage District;
-  Mobile laboratory programs for several Natural Resources Conservation Districts, totaling 70 assessments for 12,000 AF of saved water.



ACCOMPLISHMENTS

The WCFSP is building productive partnerships, empowering innovative conservation plans and furthering the adoption of cost-effective conservation measures. The SCAO WCFSP effort has provided assistance for achieving best practices in both business management and water management. Southern California water agencies recognize Reclamation as a practical and environmentally sensitive resources manager.

Best Management Practices (BMP) defined by the California Urban Water Conservation Council and currently implemented by urban water agencies within SCAO jurisdiction include the following:

1. Water survey programs for single-family residential and multi-residential customers
2. Residential plumbing retrofit
3. System water audits, leak detection and repair
4. Metering with commodity rates for all new connections and retrofit of existing connections
5. Large landscape conservation programs and incentives
6. High-Efficiency Washing Machine Rebate Programs
7. Public information programs
8. School education programs
9. Conservation programs for commercial, industrial and institutional accounts
10. Wholesale agency assistance programs
11. Conservation pricing
12. Conservation coordinator
13. Water waste prohibition
14. Residential ULF toilet replacement programs

Fiscal Year 2000 Reclamation Support

California Urban Water Conservation Council

The CUWCC, with over 100 signatory agencies, is the key facilitator of urban water conservation planning and implementation in California. CALFED has recommended that water suppliers should be certified by the CUWCC in order to assure adoption of cost-effective water efficiency measures. This recommendation is supported by Reclamation.

This fiscal year the SCAO and the Mid-Pacific Regional Office upgraded the existing agreement with CUWCC to underwrite workshops and conferences, technical assistance, water audits, and system leak detection equipment, plus travel and per diem expenses for environmental group members participating in the development of the CALFED Water Use Efficiency Certification Program.

The CUWCC and the BMP process it oversees are now central to existing and proposed State and Federal urban water conservation initiatives, including CVPIA,

Urban Water Management Planning, California's 4.4 Plan, and CALFED Water Use Efficiency Program.

The Landscape Area Baseline Study

The Helix Water District (District) embarked upon the second stage of a study to determine the quantitative requirements of BMP 5. Using sophisticated data analysis, the district identified sites having one acre or more of irrigated landscape and the potential for substantial water savings. Results from this analysis will be extrapolated to areas served by other water retailers throughout southern California, serving as a baseline for setting goals and incentives.

Residential Indoor/Outdoor Survey And Educational Program

Within the service areas of the participating agencies, 6th grade students conducted surveys of their household water usage and the potential for retrofits. Classroom and CD ROM training for the students fulfilled BMP 8. The six thousand surveys met the requirements of BMP 1. The upgraded plumbing will implement BMP 2. This innovative program was publicized on national television. Participating districts included the Southern California Water Company, the Municipal Water District of Orange County (MWDOC), and the Central and West Basin Municipal Water Districts (CWBMD).

Residential Controller Retrofit And Evaluation

The Riverside-Corona Resource Conservation District (RCRCD) provided and installed multi-programmable landscape sprinkler controllers in fifty homes. RCRCD also developed water conserving irrigation schedules and performed a cost/benefit analysis of the program. The data and analysis from this project will be useful to the Western Municipal Water District, which provided partial support, as well as to other water agencies throughout the Southern California region. RCRCD estimates that outdoor water use can be reduced by 10% to 12% by installing multi-programmable controllers and monitoring the sites. This continuing effort meets the requirements of Assembly Bill 325 and the BMP's of the California Urban Water Conservation Council.

Water Education Advisory Council

The Water Education Advisory Council is a regional consortium of eight water retailers working together to implement water education programs. Formed by the Western Municipal Water District in 1995, the Council has expanded to reach more than 200,000 students from kindergarten to the 12th grade. The Council provides an extensive array of water education curricula, field trips, presentations and teacher services. There is also an educational theater program, a science fair, and a fifth grade poster contest. This joint partnership provides Reclamation with an excellent opportunity to continue its support of local water conservation educational activities.



Water Environment Federation Teach 2000

WEFTEACH is conducted by the Water Environment Federation (WEF). In FY2000 the one-day event was held in conjunction with the 73rd Annual WEF Technical Exposition and Conference. More than 70 secondary science and social studies teachers in the Los Angeles and Orange County Unified School Districts learned how to teach current local water issues. The courses were conducted by water professionals including environmental engineers, chemists, treatment plant managers and equipment distributors. Highlighted local themes included water reuse, water and wastewater treatment, urban run-off, and water conservation

Ultra - Low Flush Toilet (ULFT) Distribution And Recycling Program

Eastern Municipal Water District successfully implemented an ULFT Program utilizing a community-based organization and involving all of the high schools within the Eastern service area. Reclamation's support helped promote water use efficiency, as well as educate many of Eastern's customers and high school students. Over 2,000 ULFT units were given away to low and fixed income groups, resulting in the projected savings of 1,134 acre-feet of water over the fifteen year functionality of the ULFT units.

Reclamation purchased 1,600 toilets for the initial year of a ULFT program conducted by the West and Central Basin Municipal Water Districts. The ten year program will eventually replace 15,900 toilets with ultra-low flush models, saving 620 acre-feet. The distribution will utilize the community-based organizations, ExPert and the Old Timers Foundation.

Precision Irrigation Scheduling Method (Prism) Program

The San Jacinto Basin Resource Conservation District (SJBRC) Mobile Lab used the PRISM system to provide season-long soil moisture monitoring and computerized irrigation scheduling services to participating vineyards in the Temecula Valley wine grape growing region.

Residential Plumbing Device Saturation Survey For Orange County

The Metropolitan Water District of Southern California and the Municipal Water District of Orange County (MWDOC) are pursuing a study to gather data on showerheads, toilets, faucets, water-using appliances, leaks, irrigation systems, and demographics. The project will provide a measure of current water conservation adoption and important data for retail demand forecasting models.

Padre Dam Graywater Pilot Project

Padre Dam Municipal Water District began a 5-year evaluation of packaged residential graywater irrigation systems. The pilot project will assess potential customer savings as well as the impact of these systems over time on district sewer and water facilities.

Planning Model For Three Valleys Municipal Water District

Three Valleys Municipal Water District is developing a planning model to assess how close various conservation measures are to achieving market-wide adoption. This information will help determine the remaining potential for water savings from conservation interventions. The final deliverable will include methods for

determining the cost-effectiveness of meeting BMP requirements, and a suggested implementation plan for retail agencies. This product will be useful for agencies that are required by the state to develop an Urban Water Management Plan.

Water Budget In The Los Angeles & San Gabriel Double Watershed

The Los Angeles and San Gabriel Rivers Watershed Council is working cooperatively with local water agencies within its jurisdiction to gather data and develop a water budget. An accurate water budget is critical to water use efficiency planning and program implementation. Other participants include the California Urban Water Conservation Council, the Association of Ground Water Agencies, and the Water Reuse Association.

Residential High-Efficiency Clothes Washer Incentive Program

Reclamation continued its support of this highly successful program conducted by the San Diego County Water Authority (SDCWA). SDCWA is offering water customers in its service area a financial incentive to replace water-wasting clothes washers with water-efficient machines that use 30% less water per load and significantly less energy. Implementation furthers BMP 6. Other participants: San Diego Gas and Electric Company, City of San Diego, Metropolitan Water District of Southern California.

Conference, Workshop and Event Support

- 💧 2000 Annual California Water Policy 10 Conference for The Public Officials for Water and Environmental Reform (POWER).
- 💧 Network for Environmental Science Teaching (NEST) Advisory Committee
- 💧 Recycled Water Site Supervisor Class - San Diego County Water Authority.
- 💧 Recycled Water Training - CA-NV Section, American Water Works Association
- 💧 Presentation to Western Coalition for Arid States
- 💧 Temecula Valley Wine Grape Day

Ongoing Efforts

The following programs are ongoing partnerships continued from previous fiscal years.

Commercial-Industrial-Institutional (CII) Water Conservation Program

This program conducted by the Metropolitan Water District of Southern California retrofits water fixtures in CII facilities regionally. This year Metropolitan targeted the specific CII water uses where a retrofit would yield the highest water savings. The new approach will enable Metropolitan to attract greater participation by increasing rebate offers. Water savings should amount to 2,850 acre-feet per year over the lifetime of the retrofits.

Demand Forecast Modeling In Orange County

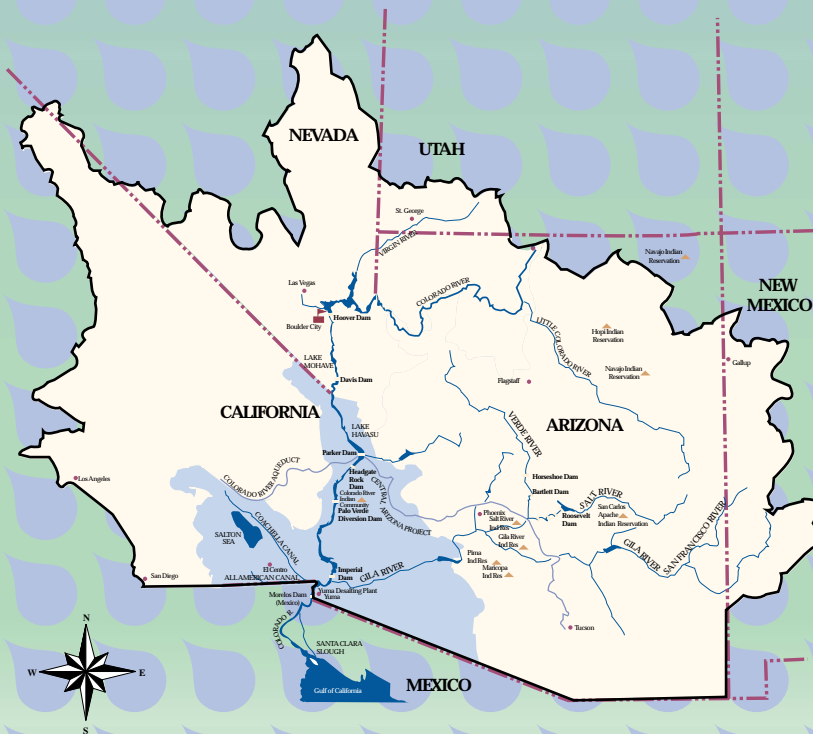
Currently, Orange County uses approximately 650,000 acre-feet of water annually, projected to grow to 870,000 acre-feet annually by 2020. A forecast model for the Municipal Water District of Orange County (MWDOC) will help determine the potential for demand reduction as well as the costs and responsibilities for implementing water use efficiency measures. This partnership will help MWDOC and Reclamation to produce demand forecasts and to establish BMP Implementation Plans at the retail level.



Mobile Labs

Water users who are concerned about deficient irrigation performance, high water bills, poor crop yields or uncertainties about how to determine proper irrigation scheduling can call upon Mobile Labs to diagnose the problem. Mobile Lab fundamental services include comprehensive field evaluations of irrigation system performance, an assessment of water use history for crops or landscape, and irrigation system scheduling. Reclamation also sponsors an annual technical conference and trade show.

Yuma Area Office



2000 End of Year Report

ACCOMPLISHMENTS

Conservation Planning:

Reclamation WCFSP staff reviewed and revised conservation plans from six water districts. In Arizona, only two municipal and one agricultural plan remain for 100% compliance. In California, water planning by the three largest agricultural districts was delayed by state negotiations over a comprehensive plan for keeping total withdrawals within California's Colorado River entitlement. All plans must be completed by December 2001 to be in compliance with federal law.

New Cooperative Agreements:

Reclamation developed and signed seven water conservation cooperative agreements with local districts and agencies for 50/50 cost sharing, obligating \$333,910 in federal funds to match local contributions.

Reclamation entered into water measurement agreements with the Fort Mohave Indian Tribe and the US Fish and Wildlife Refuges along the Colorado River.

A fifth soil salinity assessment demonstration with USDA-ARS will provide public information on soil salinity management.

Existing agreements were extended and modified to provide water measurement structures in the Bard Water District and continued sponsorship of the Coachella Valley RCD Mobile Lab.

A new agreement was initiated with California Polytechnic State University, Irrigation Training and Research Center (ITRC), for technical assistance to Yuma Area's districts.

Water Conservation Programs

Water Measurement

The Yuma Area Office provided design services for five new measurement structures in local water districts.

Two new models of Acoustic Doppler Flow Meters (ADFM) were installed in the Yuma Mesa Main Canal and evaluated for use.

YAO is preparing to demonstrate a new technology for flume recorders in the Mohave Valley.

Canal Modernization and Automation

Reclamation worked with the Bureau of Indian Affairs and the Colorado River Indian Tribes (CRIT) to advance the CRIT Supervisory Control and Data

Acquisition

(SCADA) system to 80% completion.

Reclamation and the ITRC completed SCADA plans for the Yuma County Water

Users' Association and the Yuma Irrigation District, and also installed a demonstration project for a low-cost, water level alarm system for small districts.

On-Farm Irrigation Water Management

The University of California completed a runoff reduction demonstration in the Imperial Valley, with Reclamation funding.

Reclamation supported University of Arizona research to determine an easy-to-use, irrigator-friendly method for determining irrigation cut-off times on the Yuma Mesa and the Yuma Valley. Reclamation is developing outreach and extension programs based on these studies.



An alternative forage crop study by the University of California advanced to 75% completion. This Reclamation-sponsored research is examining crop alternatives that use less water while still providing high quality forage.

Reclamation and the University of Arizona are developing Internet-based irrigation scheduling software, "AZSCHED." Programming is 90% complete.

Soil Salinity Management:

Five demonstrations of new technology for soil salinity management are active in the Yuma Area. The goal is adoption by the private sector, with the public and agricultural service companies already showing considerable interest. The five sponsors, together with the USDA-Agricultural Research Service, held a technical conference in November 2000 to further salinity management efforts.

Public Information and Education Programs

The Yuma Area Office presented its water conservation display at four county fairs in FY2000. The exhibit included Reclamation's water measurement model, a miniature automated gate, and informative brochures.

YAO set up a water conservation booth at the US Army, Yuma Proving Ground and City of Yuma "Earth Day" celebrations, and at the US Marine Corps Air Station energy fair.

The Yuma Area Office publishes a quarterly water conservation newsletter with a mailing list of nearly 200.

